AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (presently amended) A method to determine parameters of a radiography acquisition comprising:

a. a first test image of an object is acquired under known setting conditions for a radiography installation;

b. [[a]] an equivalent mean thickness of the object is measured, wherein the equivalent mean thickness is based on the thickness of human tissues from a standard based on an equivalent thickness in plastic materials, for these known setting conditions, from the first test image test;

c. the parameters of acquisition are determined from the mean thickness;

d. calculating a dynamic range corresponding to a difference between the mean thickness of the object and a thickness corresponding to a threshold; and,

d. a measure is made of the equivalent mean thickness from the first test image, where pixels that represent defined regions of the object are eliminated from the first test image.

2. (presently amended) The method according to claim 1 wherein the radiology installation is set as a function of the parameters wherein the high voltage applied between an anode and a cathode of an X-ray tube of the installation is set, the setting being done as a function of the equivalent mean thickness of the object examined.

3. (presently amended) The method according to claim 1 wherein in order to exclude the pixels, those pixels for which one characteristic in the image is located

beyond a threshold are eliminated from the first image, the threshold corresponding to a borderline thickness of interest of the object; and below the borderline thickness, it is assumed that the image is of no interest and the equivalent mean thickness is computed from a reduced histogram of pixels in which reduced histogram, the eliminated pixels are not present.

4. (presently amended) The method according to claim 2 wherein in order to exclude the pixels, those pixels for which one characteristic in the image is located beyond a threshold are eliminated from the first image, the threshold corresponding to a borderline thickness of interest of the object; and below the borderline thickness, it is assumed that the image is of no interest and the equivalent mean thickness is computed from a reduced histogram of pixels in which reduced histogram, the eliminated pixels are not present.

5. (presently amended) The method according to claim 3 wherein the equivalent mean thickness value taken is the mean of equivalent thicknesses corresponding to the pixels of the population of pixels of the reduced histogram, the equivalent thicknesses being tissue thicknesses of the object given by their equivalents in thickness of a plastic material.

6. (presently amended) The method according to claim 4 wherein the equivalent mean thickness value taken is the mean of equivalent thicknesses corresponding to the pixels of the population of pixels of the reduced histogram, the equivalent thicknesses being tissue thicknesses of the object given by their equivalents in thickness of a plastic material.

7. (original) The method according to claim 5 wherein:

a. a given number of pixels is subtracted from the population of pixels of the reduced histogram; and

b. the subtracted pixels are those whose equivalent thicknesses are the lowest from the threshold.

8. (original) The method according to claim 6 wherein:

a. a given number of pixels is subtracted from the population of pixels of the reduced histogram; and

b. the subtracted pixels are those whose equivalent thicknesses are the lowest from the threshold.

9. (original) The method according to claim 3 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

10. (original) The method according to claim 5 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

11. (original) The method according to claim 6 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

12. (original) The method according to claim 7 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the

parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

13. (original) The method according to claim 8 wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

14. (presently amended) ~~The~~ A method ~~according to claim 9 wherein~~ to determine parameters of a radiography acquisition comprising:

a. a first test image of an object is acquired under known setting conditions for a radiography installation, wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest;

b. a mean thickness of the object is measured, for these known setting conditions, from the first test image test;

c. the parameters of acquisition are determined from the mean thickness; and

d. a measure is made of the mean thickness from the first test image, where pixels that represent defined regions of the object are eliminated from the first test image;

wherein in order to exclude the pixels, those pixels for which one characteristic in the image is located beyond a threshold are eliminated from the first image, the threshold corresponding to a borderline thickness of interest of the object; and below the borderline thickness, it is assumed that the image is of no interest and mean thickness is computed from a reduced histogram of pixels in which reduced histogram, the eliminated pixels are not present; and, before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{ScatterComp = \begin{bmatrix} sa \\ +(sb \times EPTthreshold) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sd \times AirGap) \\ +(se \times kVp\_actual) \\ +\left(sf \times AirGap^{2}\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sh \times EPTthreshold \times AirgGap) \\ +(si \times EPTthreshold \times kVp\_actual) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +(sl \times AirGap \times kVp\_actual) \end{bmatrix}}$$

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present, the equivalent thickness being tissue thickness of the object given by an equivalent in thickness of a plastic material;

SurfaceFdbk represents a surface area of a field of view

KVp_actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

15. (previously presented) The method according to claim 10 wherein before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

$$\boxed{ScatterComp = \left[\begin{array}{l} sa \\ +(sb \times EPTthreshold) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sd \times AirGap) \\ +(se \times kVp\_actual) \\ +\left(sf \times AirGap^{2}\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sh \times EPTthreshold \times AirgGap) \\ +(si \times EPTthreshold \times kVp\_actual) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +(sl \times AirGap \times kVp\_actual) \end{array}\right]}$$

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present;

SurfaceFdbk represents a surface area of a field of view

KVp_actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

16. (previously presented) The method according to claim 11 wherein before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

$$\boxed{ScatterComp = \left[\begin{array}{l} sa \\ +(sb \times EPTthreshold) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sd \times AirGap) \\ +(se \times kVp\_actual) \\ +\left(sf \times AirGap^2\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sh \times EPTthreshold \times AirgGap) \\ +(si \times EPTthreshold \times kVp\_actual) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +(sl \times AirGap \times kVp\_actual) \end{array}\right]}$$

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present;

SurfaceFdbk represents a surface area of a field of view

KVp_actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

17. (previously presented) The method according to claim 12 wherein before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

$$\boxed{ScatterComp = \left[\begin{array}{l} sa \\ +(sb \times EPTthreshold) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sd \times AirGap) \\ +(se \times kVp\_actual) \\ +\left(sf \times AirGap^2\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sh \times EPTthreshold \times AirgGap) \\ +(si \times EPTthreshold \times kVp\_actual) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +(sl \times AirGap \times kVp\_actual) \end{array}\right]}$$

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present;

SurfaceFdbk represents a surface area of a field of view

KVp actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

18. (previously presented) The method according to claim 13 wherein before the reverse analysis, the thickness is corrected as a function of an arbitrary thickness, a geometry of acquisition of the image and as a function of a Compton scattering phenomenon that results therefrom according to the following equations:

$$\boxed{AirGap = SID - IsoDis\tan ce\_\frac{EPTthreshold}{2}}$$

and

$$\boxed{ScatterComp = \begin{bmatrix} sa \\ +(sb \times EPTthreshold) \\ +\left(sc \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sd \times AirGap) \\ +(se \times kVp\_actual) \\ +\left(sf \times AirGap^2\right) \\ +\left(sg \times EPTthreshold \times \sqrt{SurfaceFdbk} \times 10\right) \\ +(sh \times EPTthreshold \times AirgGap) \\ +(si \times EPTthreshold \times kVp\_actual) \\ +\left(sj \times \sqrt{SurfaceFdbk} \times 10 \times AirGap\right) \\ +\left(sk \times \sqrt{SurfaceFdbk} \times 10 \times kVp\_actual\right) \\ +(sl \times AirGap \times kVp\_actual) \end{bmatrix}}$$

wherein:

SID represents a distance from an x-ray source to a detector;

IsoDistance represents a distance from the x-ray source to a lower edge of the object;

EPT Threshold represents an equivalent thickness below which no tissue of interest is present;

SurfaceFdbk represents a surface area of a field of view

KVp actual represents a voltage with which the x-ray source is energized at a time of test image acquisition; and

Sa through Sl represent coefficients obtained by a regression analysis of measurement of phantoms of known radiological densities.

19. (previously presented) The method according to claim 9 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

20. (previously presented) The method according to claim 10 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

21. (previously presented) The method according to claim 11 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

22. (previously presented) The method according to claim 12 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

23. (previously presented) The method according to claim 13 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

24. (previously presented) The method according to claim 14 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

25. (previously presented) The method according to claim 15 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

26. (previously presented) The method according to claim 16 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

27. (previously presented) The method according to claim 17 wherein, for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

28. (previously presented) The method according to claim 18 wherein for the reverse analysis the result of the following equation is computed:

$$\boxed{SFBthreshold = \exp(b12 + W12 \cdot \Phi(W11 \cdot In + b11))}$$

wherein In represent the known conditions of setting of the installation, Φ represents a Tansig function, the values bij and Wij are respectively vectors and matrices, the values bij and Wij by learning, especially by minimization of an error in the computation of the equation for a set of thresholds, SFB threshold, and for a set of varied conditions of setting of the installation.

29. (presently amended) The method according to claim 3 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a~~ the thickness corresponding to the threshold is a maximum anatomical thickness.

30. (presently amended) The method according to claim 5 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a thickness~~ the corresponding to the threshold is a maximum anatomical thickness.

31. (presently amended) The method according to claim 7 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a~~ the thickness corresponding to the threshold is a maximum anatomical thickness.

32. (presently amended) The method according to claim 9 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a~~ the thickness corresponding to the threshold is a maximum anatomical thickness.

33. (presently amended) The method according to claim 14 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a~~ the thickness corresponding to the threshold is a maximum anatomical thickness.

34. (presented amended) The method according to claim 19 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a~~ the thickness corresponding to the threshold is a maximum anatomical thickness.

35. (presently amended) The method according to claim 3 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and~~ the thickness corresponding to the threshold is a maximum anatomical ~~thickness~~ region.

36. (presently amended) The method according to claim 5 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean~~

~~thickness of the object and~~ the thickness corresponding to the threshold is a maximum anatomical ~~thickness~~ region.

37. (presently amended) The method according to claim 7 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and~~ the thickness corresponding to the threshold is a maximum anatomical ~~thickness~~ region..

38. (presently amended) The method according to claim 9 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and~~ the thickness corresponding to the threshold is a maximum anatomical ~~thickness~~ region..

39. (presently amended) The method according to claim 14 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and~~ the thickness corresponding to the threshold is a maximum anatomical ~~thickness~~ region..

40. (presently amended) The method according to claim 19 wherein ~~to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and~~ the thickness corresponding to the threshold is a maximum anatomical ~~thickness~~ region.

41-43. (cancelled)

44. (original) An article of manufacture for use with a computer system, the article of manufacture a comprising computer readable medium having computer readable program code means embodied in the medium, the program code means implementing the steps of the method according to claim 1.

45. (canceled)

46. (previously amended) ~~The~~ A method ~~according to claim 45,~~ to determine parameters of a radiography acquisition comprising:

a. a first test image of an object is acquired under known setting conditions for a radiography installation, wherein to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a thickness corresponding to the threshold;

b. a mean thickness of the object is measured, for these known setting conditions, from the first test image test;

c. the parameters of acquisition are determined from the mean thickness; and

d. a measure is made of the mean thickness from the first test image, where pixels that represent defined regions of the object are eliminated from the first test image, wherein in order to exclude the pixels, those pixels for which one characteristic in the image is located beyond a threshold are eliminated from the first image, the threshold corresponding to a borderline thickness of interest of the object; and below the borderline thickness, it is assumed that the image is of no interest and mean thickness is computed from a reduced histogram of pixels in which reduced histogram, the eliminated pixels are not present;

wherein the mean thickness corresponds to a proportion of the dynamic range and ~~wherein~~ the proportion is one twentieth of the dynamic range.

47. (previously presented) The method according to claim 1, wherein the defined regions of the object are non-anatomical regions.

48. (new) The method according to claim 47, wherein the non-anatomical regions represent edges of the object.